Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

M. E. Sem. – IInd - Examination – June/July- 2011

Subject code: 1721607

Subject Name: Polymer Materials & Testing

Date:29/06/2011 **Time: 10:30 am – 01:00 pm**

Total Marks: 70

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1(A)	List the Drawbacks of Raw Rubber. Explain in detail about Rubber Fabrication.	**(07)**
(B)	Discuss in detail about structure, processing, properties & applications of Styrene Butadiene Rubber (SBR).	**(07)**
Q.2(A)	Discuss in detail about properties of Synthetic Fibres.	**(07)**
(B)	Explain in detail about different methods of Spinning a Fibre.	**(07)**
	OR	
(B)	List the important requirements of a Fibre and write in detail about Cuprammonium Rayon.	**(07)**
Q.3(A)	Write in detail about structure, properties and applications of Polypropylene.	**(07)**
(B)	Compare the properties of LDPE & HDPE.	**(07)**
	OR	
Q.3(A)	Write in detail about Polytetrafluoro Ethylene (PTFE).	**(07)**
(B)	Discuss the applications of Amino Resins.	**(07)**
Q.4(A)	Justify the role of Sampling & Quality Control for Test Results.	**(07)**
(B)	'Storage & Conditioning affects performance & properties of product'. Justify in detail.	**(07)**
	OR	
Q.4(A)	Discuss in brief about the preparation of Test Pieces.	**(07)**
(B)	Write the importance of Abrasion Test for Rubber Products. Discuss in detail about the Test methods, Procedure & Calculation.	**(07)**
Q.5(A)	Discuss in detail about some specific tests for ready identification of NR, SBR, Cellulose & Cellulosic and Polyamides.	**(10)**
(B)	How the Brittle fractures occurring in Polymers? Discuss in detail.	**(04)**
	OR	
Q.5(A)	Explain in detail about the electrical property parameters on which basis, the Polymeric materials evaluated & selected for electrical application.	**(10)**
(B)	Discuss in detail about the effect of Temperature & Plasticisers on Stress-Strain relationship.	**(04)**

****